IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of
Seiichi YAMAMOTO
Appln. No.: 10/614,095
Confirmation No.: 8356
Filed: July 8, 2003
For: PHOTOTHERMOGRAPHIC MATERIAL AND METHOD FOR PRODUCING SILVER HALIDE USED FOR IT

Docket No: FSF-031401

Group Art Unit: 1752
Examiner: Thorl Chea

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REMARKS

I. Response to Claim Rejections under 35 U.S.C. §103(a)

A. Ikari in combination with Wey et al and JP-A No. 2000-066325

Claims 1-9 and 11-12 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over the combination of Ikari, Wey et al. and JP-A No. 2000-066325.

Although Ikari teaches the use of Ir and $Fe(CN)_6$, Ikari does not specifically describe the region to be doped with Ir. In Examples of Ikari, Ir is doped in a shell corresponding to 30 to 100 mol% of silver halide in the grain. Such a distribution of Ir is outside the scope of the presently claimed invention because only about 29 % of the total Ir amount is contained in the core portion corresponding to the 50 % of the total mol% of silver halide of the grain. As clarified in the enclosed Declaration, the photothermographic material of the presently claimed invention has image storability which is

unexpectedly superior to the image storability of the photothermographic material of Ikari which contains Ir mainly in the shell portion. In the Final Office Action, the Examiner has stated that the samples presented in the previously submitted Declaration were not prepared according to the cited reference. In response, samples were prepared according to the Example of the cited reference in the presently submitted Declaration. Accordingly, the Declaration does clarify the significant differences between the presently claimed invention and the cited references. The advantage of the presently claimed invention over the photothermographic material containing Ir mainly in the shell portion is also clarified in Tables 1 and 2 of the present application.

Wey et al. teaches a photographic material which is developed with a liquid developer. Accordingly, the photographic material of Wey et al. does not comprise components which are necessary for enabling heat development. Further, the heavy metal is doped as a sensitizer in Wey et al. In contrast, photothermographic materials uniquely have a problem of so-called printout, which refers to fogging over time caused by the silver halide which remains in the photothermographic materials after heat development. Since the photographic material of Wey et al. is developed by a conventional liquid developer, Wey et al. does not suggest that the doping with heavy metals suppresses printout. JP-A No. 2000-066325 does not suggest the suppression of printout, either.

Accordingly, the Applicant respectfully submits that the combination of Ikari, Wey et al. and JP-A No. 2000-066325 neither teaches nor suggests the presently claimed invention.

B. Ikari in combination with Wey et al, JP-A No. 2000-066325, and Farid et al.

Claim 10 was rejected under 35 U.S.C. § 103 (a) as being unpatentable over the combination of Ikari, Wey et al., JP-A No. 2000-066325, and Farid et al.

Claim 10 depends from claim 1, and the invention of claim 1 is not obvious from the combination of Ikari, Wey et al. and JP-A No. 2000-066325, as described above. Farid et al. does not teach that the doping with heavy metals suppresses printout. Therefore, the combination of Ikari, Wey et al., JP-A No. 2000-066325, and Farid et al. still fails to teach or suggest the invention of claim 1, and claim 10 is also considered patentable because of its dependency.

C. Zou

Claim 1, 2, 11, and 12 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Zou.

Zou teaches doping of silver halide with Ir and Cu. However, Zou does not disclose the specific distribution of Ir within the grain described in claim 1 of the present application. In the emulsion samples C and D used in Example 1 of Zou, Ir is added to the shell portion which is outside the core portion corresponding to 25 mol% of the total silver halide. By calculation, it is understood that only 33 % of the entire Ir is contained in the core portion corresponding to 50 % of the total mol% of silver halide in the grain. In contradistinction to the presently claimed invention, Ir is mainly doped in the shell portion in Zou. In column 8, lines 63 to 65 of Zou, it is described that "Preferably at least some dopant is present in the outer one-half of the "radius" of the grain." This recitation also indicates that Zou basically teaches Ir doping in the shell portion which is outside the core portion corresponding to 50 % of the total mol% of silver halide in the grain.

As described above, Zou teaches neither the Ir doping with a specific distribution described in the presently claimed invention nor the improvement

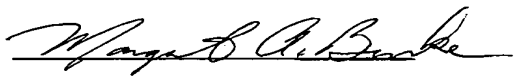
of image storability achieved by the Ir doping. Further, the photothermographic material of the invention has image storability which is unexpectedly superior to the image storability of the photothermographic materials using the emulsion samples C and D disclosed in Zou, as is clarified in the enclosed Declaration.

Accordingly, the Applicant respectfully submits that Zou neither teaches nor suggests the presently claimed invention.

In conclusion, the claimed invention is novel and cannot be obtained from the combined disclosures of prior art references.

In view of the foregoing amendments and remarks, it is submitted that all of the claims currently pending in the application are in condition for allowance. Early and favorable action is respectfully requested.

Respectfully submitted,



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